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ABSTRACT

Probably as a result of America's "socialization" process, girls and women have tended to develop rather negativistic views of females. That this negativism may be part of a developmental indoctrination process is further advanced by the present experiment's finding that older girls in this experiment demonstrated significantly less favorable evaluations of females than their younger counterparts. This experiment sought to improve evaluations of females by pairing pictures of females with positively evaluated words. Subsequently, the girls exposed to this classical conditioning procedure, regardless of age (i.e. grade), adopted significantly more positive attitudes toward females than the girls in the control groups. (Author)

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Reversing the Effects of Sexism in Elementary School Girls Through the Use of Classical Conditioning Procedures

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American culture and American schools seem to be transmitting the message to girls and women alike that they are less competent than their male counterparts. (Horner, 1968; Levy, 1972a; 1972b; Levy & Stacy, 1973; O'Leary, 1974; Stacy, Bereand & Daniels, 1974). As a result, females have tended to describe themselves in various unfavorable ways. Such attributes as nervous, anxious, uncertain, hasty, timid and stupid have been frequently employed by women when they were asked to describe themselves (Bennett & Cohen, 1959). Furthermore, Putnam and Hansen (1972) reported that women tended to have lower self concepts than the normative "average" on the Tennessee Self Concept Scale.

Whatever the cause of this unfavorable female image, it appears vital that this artifact of sexism will need to be reversed in order that females can develop better feelings about themselves. Notably, classical conditioning has been used to eliminate, or reduce, negative feelings by associating various pictures with the presentation of positively evaluated words. For instance, Parish & Fleetwood (1975) paired pictures of the color black with positively evaluated words. Consequently, kindergarten children who had been exposed to this conditioning procedure more favorably evaluated Black people than their control counterparts. In like manner, Early (1968) paired pictures of social isolates' names with positive words and found that children so conditioned subsequently increased the number of social interactions with these social isolates.

Thus, what classical conditioning has achieved provides us with a sufficient base to hypothesize that pairing pictures of females with positively evaluated words should result in more favorable evaluations of females by those girls so conditioned. Furthermore, the effect of this conditioning treatment was hypothesized to endure over a two day period.

Besides the hypothesized treatment effect, two developmental findings are also hypothesized. First, older girls are hypothesized to demonstrate more negative evaluations of females than younger girls. Second, older girls are hypothesized to demonstrate more positive evaluations of males than younger girls. These two hypotheses are based on the premise that as a result of sex role identification, younger females are taught rather early in life about their sex roles and are consistently reinforced for them (Lynn, 1963; 1969). However, the simplicity of the female sex role for older females may be lost due to various role conflicts (Gordon & Hall, 1974) and the acquisition of negative stereotypes regarding femininity (Bardwick, 1971).

Finally, the role of the children's awareness of the conditioning process was also considered in this experiment, although it was hypothesized that awareness would not significantly affect the outcome of the conditioning treatment.

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Method

Subjects

A total of 65 girls were drawn from the first through sixth grades of the Ripley, Oklahoma Elementary School. These 65 girls made up the entire female population enrolled in the first six grades of this rural school system. The age range of these girls was from 6 to 13 years of age. The number of females drawn from each grade was 5 from the first grade, 11 from the second grade, 9 from the third grade, 12 from the fourth grade, 13 from the fifth grade, and 15 from the sixth grade. From this group of 65 females, 21 were randomly assigned to the experimental group, 23 to the placebo group, and 21 to the control (i.e., no treatment group).

Procedure

Treatment. Children in the experimental and placebo groups experienced four daily treatment sessions. The children in the experimental group observed

a 5 second presentation of a neutral word, (e.g., door, square) followed by a 5 second presentation of a picture of one or more females followed by a 5 second presentation of a positively evaluated word, (e.g., nice, wonderful). This conditioning procedure, which was repeated 40 times in the same exact order as described above, constituted one treatment session.

In contrast to the experimental group, the children in the placebo group received a similar procedure except that the pictures, neutral words, and positive words were in random order.

The children in the control group did not experience any treatment procedures.

Attitude measurement. Immediately following the final session of treatment procedures for both the experimental and placebo groups, children in all three groups were administered two semantic differential-type attitude scales. Scale 1 requested the children to rate "girls" while Scale 2 requested the children to rate "boys." This same procedure was repeated once again the following day. On both occasions, the order of the attitude targets (i.e., boys and girls) were counterbalanced. The exact bipolar adjective combinations that were employed in this experiment appear in Table 1. This particular rating scale, which was originally developed by Osgood (1952), has been successfully used before by Parish, Harvey, and Lambert (Note 2) to detect attitude change which resulted from conditioning. Based on test retest results, using the control group's ratings of girls on day 1 and also their ratings of girls on day 2, a Spearman rank order correlation coefficient of .835 was computed for this attitude scale.

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Insert Table 1 about here

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Awareness Test. After the girls had responded to the scales on the second day of testing, each girl was asked to write (or verbally reply to one of the assistants who wrote their replies verbatim) answers to the following questions:

1. What was this study really about?
2. What were we trying to find out?
3. What were we trying to do?

Three judges (graduate students) were then asked to determine awareness by basing their subjective evaluations on each respondents written responses to the above three questions. A respondent was deemed to be aware if any of the judges catagorized her comments accordingly.

Results

None of the 65 girls in this experiment offered any responses to the awareness test questions which prompted any of the judges to certify that they were aware of the conditioning process. Thus, no comparison of results were possible between aware and unaware respondents.

Separate unweighted means analyses of variance were computed on the results of the second day regarding the evaluations of males and females. In each instance, the unweighted means analyses of variance consisted of 3 treatment levels by 6 grade levels. On the first day, for "girls", there was no significant treatment effect ($F = .55$, $df = 2/47$, $p > .05$) or interaction ($F = .94$, $df = 10/47$, $p > .05$), but there was a significant grade effect ($F = 5.01$, $df = 5/47$, $p < .005$). A Newman Keuls procedure indicated that girls from grades 1 and 2 had significantly more positive attitudes ($p < .01$) toward females than the girls from grades 3, 4, 5 and 6. This same procedure suggested that the attitudes of girls from grades 1 and 2, like the attitudes of the girls from grades 3, 4, 5 and 6, did not differ from one another.

On the second day, the mean scores of the evaluations of females maintained the same significant differences between grades (1 & 2 > 3, 4, 5 and 6) that had been noted on the first day ($F = 2.73$, $df = 5/44$, $p < .05$). Besides the grade effect, a significant treatment effect was also found on the second

day (F = 3.23, df = 2.44, $p < .05$). The Newman Keuls procedure indicated that the girls from the experimental group had adopted significantly more positive attitudes ($p < .05$) toward females than the girls in either the placebo group or the control group. Notably, the attitudes of these latter two groups of girls did not differ from each other. As on the first day, there were no significant interaction effects (F = .78, df = 10/44. $p > .05$).

Using "males" as the target, the 3 x 6 unweighted means analysis of variance used to analyze the two days' results revealed no significant treatment effect on either day, no significant grade effect on either day, and no significant interaction effects on either day.

Discussion

There were at least two key findings reported in this experiment. First, the girls who experienced the conditioning procedures employed in this experiment did demonstrate (on the second day of attitude testing) more positive evaluations of females than their control and placebo counterparts. Furthermore, this treatment procedure was found to be effective across groups (i.e., grades). Second, the girls in this experiment, regardless of group assignment, demonstrated the hypothesized developmental trend that older girls should demonstrate more negative attitudes toward females than younger girls. More specifically, girls in grades 3, 4, 5 and 6 were significantly more negative in their evaluations of females than the girls in grades 1 and 2. These two findings suggest that we can use conditioning procedures like the one employed in this experiment to help offset the trend that as girls increase in age and experiences they become more negative about their roles in life. Of course, this conditioning process may not be able to totally succeed in stopping the females' role conflicts which are a product of our culture's indoctrination process, but this conditioning process should help girls feel happier about being females, which in turn may give a needed boost to their self concepts.

The facilitation of positive attitudes toward females was also accomplished without the necessity of awareness of the conditioning process by the girls who were conditioned. This finding is in keeping with previous research (Parish, 1974; Parish & Fleetwood, 1975; Parish, Fleetwood & Lentz, 1975; Staats & Staats, 1958). Of course, as noted by Parish and Fleetwood (1975), caution needs to be taken since the findings of this experiment regarding the effectiveness of the conditioning procedures may not necessarily change attitudes and behaviors which apply to situations outside the experimental setting. Therefore, research of a more applied nature should be conducted to determine exactly what are the perimeters of classical conditioning's effectiveness on attitudes toward females under non-laboratory conditions.

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TABLE 1

SEMANTIC DIFFERENTIAL ATTITUDE SCALE

Test #1: Judge the following concepts concerning your feelings toward Girls

good	_:_:_:_:_:_:_	bad
beautiful	_:_:_:_:_:_:_	ugly
sweet	_:_:_:_:_:_:_	sour
clean	_:_:_:_:_:_:_	dirty
kind	_:_:_:_:_:_:_	cruel
nice	_:_:_:_:_:_:_	awful
honest	_:_:_:_:_:_:_	dishonest
fair	_:_:_:_:_:_:_	unfair

Test #2: Judge the following concepts concerning your feelings toward Boys

good	_:_:_:_:_:_:_	bad
beautiful	_:_:_:_:_:_:_	ugly
sweet	_:_:_:_:_:_:_	sour
clean	_:_:_:_:_:_:_	dirty
kind	_:_:_:_:_:_:_	cruel
nice	_:_:_:_:_:_:_	awful
honest	_:_:_:_:_:_:_	dishonest
fair	_:_:_:_:_:_:_	unfair